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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/722,338	11/28/2000	Hang Zhang	PAT 323 - 2	6180

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EXAMINER
LAMARRE, GUY J

ART UNIT	PAPER NUMBER
2133	4

DATE MAILED: 04/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application N[●]	Applicant(s)
	09/722,338	ZHANG ET AL.
	Examiner	Art Unit	
	Guy J. Lamarre, P.E.	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _02 February 2002_ .

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-18_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-18_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _28 November 2000_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

DETAILED ACTION

0.   This office action is in response to Applicants' **Amendment** of *2 Feb. 2004*.

0.1   **Claims 1-18** remain pending.

0.2   The prior art rejections of record are withdrawn in response to Applicants' **Amendment.**

Response to Arguments

0.3   Applicants' arguments of *2 Feb. 2004* have been fully considered: they are found persuasive only to the extent that the feature whereby hybrid ARQ varies the number of retransmissions based on parameters such as round trip delay, time-out and counter means is not specifically described by the prior art of record. However, **Kalliojarvi** (US Patent No. 6,438,723) teaches such feature in e.g., Figs. 5-6.

Claim Objections

1.   It is not clear, **in** Claims 1, 9, 14, what is meant by "retransmission parameters." Appropriate correction is required.

Claim Rejections - 35 USC ' 103

2.   Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maggenti et al. (US Patent No. 6,477, 150) in view of Kalliojarvi (US Patent No. 6,438,723).

Referring to claims 1, 9, 14, Maggenti et al. substantially teaches that " ... CM 218 may periodically retransmit AYT requests to any registered CD which has not acknowledged receipt of the AYT." (column 14, lines 13-15), "...The net itself will remain dormant until one or more members trigger the transmission of a PTT request. If CM 218 determines it can grant the PTT request message (i.e., the PTX message) (including performing any necessary arbitration ..." (column 34, lines 54-58), "...retransmits a second PTT message using the same PTT message ..." (column 30, lines 47, 48), and " ...CD 202 may be preprogrammed with a group-list, which

defines at least one net-address in which CD 202 is a member. CD 202 can later send a request to

the top-level SIP server to update its group list." (column 10, lines 59-62).

Not specifically described in detail in Maggenti is the step of varying retransmission

based on parameters such as round trip delay, time-out and counter means. However Kalliojarvi,

in an analogous art, discloses a hybrid ARQ wherein such techniques are described {See

Kalliojarvi, Id., Figs. 5-6} Therefore, it would have been obvious to a person having ordinary

skill in the art at the time the invention was made to modify the procedure in Maggenti by

including therein round trip delay and time-out means as taught by Kalliojarvi, because such

modification would provide the procedure disclosed in Maggenti with a technique wherein *"A*

retransmission buffer 505 is arranged to temporarily store a copy of the information that is

necessary for the potential retransmissions concerning each subpacket. A frame multiplexer 506

will arrange the original transmissions and required retransmissions into the frames of the

physical layer frame structure in an optimal way, i.e. so that it tries to fill up each frame and

simultaneously not to violate any rules concerning allowed transmission delays. A

retransmission controller 507 keeps a record of the requested retransmissions and controls the

operation of the retransmission buffer 505 and the frame multiplexer accordingly. A transmitter

unit 508 takes care of the actual transmitting and a receiver unit 509 receives the retransmission

requests and conveys them to the retransmission controller 507" to thereby improve data

communications. {See Kalliojarvi, col. 13 line 23 et seq.}

Claims 2-8 depend from respective claim 1, hence inherit the rejection in claim 1. Also,

according claims 2-8, Maggenti et al. teaches that "A variety of RLP modification strategies are

possible. RLP may be modified to send multiple NAK responses after an initial RLP timeout,

thus prompting the remote end to transmit multiple copies of the lost RLP frame and improving

the chances of a successful RLP recovery." (column 22, lines 66, 67 and column 23, lines 1-3),

"Due to the delays associated in transitioning a CD out of the dormant state to the connected state, CD 202 and/or CM 218 may perform voice buffering to mitigate the transition delay perceived by the user." (column 35 lines 48-51).

Referring to claim 9, Maggenti et al. teaches that "... a dormant CD 202 may buffer media traffic ..." (column 14, line 5) and "...SIP call-signaling PPP frames exchanged between a cellular-based CD 202 and a base station 216 are encapsulated within the Radio Link Protocol (RLP), a well known wireless protocol for transmitting data over-the-air." (column 21, lines 25-29).

Claims 10-13 depend from respective claim 9, hence inherit the rejection in claim 9. Also, according claims 10-13, Maggenti et al. teaches that "... communications manager ... comprising: a counter for determining a number of responses to message." (column47, lines 48, 49).

Referring to claim 14, Maggenti et al. teaches that "The choice of CM might instead be determined dynamically, based on proximity to the majority of net participants (determined using available position location techniques), available quality of service on a service providers inter-system network, and other factors., and Maggentu et al discloses that "[the] systems using .. Radios" (column 1, line 17) well known and ° ... have been used ... in order to communicate scheduling information ..." (column 1, lines 18, 19), and "in the case of CDs 202, 204, and 206, the request is transmitted over-the-air to one or more base stations 216. MSC 220 comprises a well-

known Inter Working Function (IWF) (not shown) for processing data packets, including the request, ..." (column 6, lines 52-56).

Claims 15-17 depend from respective claim 14, hence inherit the rejection in claim 14. Also, according claims 15-17 US 6,477, 150 to Maggenti et al. (filed: 03/03/2000) "Radio Link

Protocol (RLP), a well known wireless protocol for transmitting data over-the-air." (column 21,

lines 27-29).

2.1   Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maggenti et al.
(US Patent No. 6,477, 150) in view of Kalliojarvi (US Patent No. 6,438,723) in further view of
US 6,618,375 to Rezaiifar et al. (filed: 09/13/99).

Maggenti and Kalliojarvi substantially teach that "CM 218 may periodically retransmit

AYT requests..." (column 14, line 13). Maggenti and Kalliojarvi do not explicitly teach and

point out to provide the automatic retransmission request, but does not limits or suggests to

limit automatic retransmission request, thereby inherently providing possibility for automatic

retransmission, and also Rezaiifar et al. teaches that "ARQ (automatic request for

retransmission) mechanism, and wherein data packets are sometimes received in an order

different from that in which they were transmitted." (column 2, lines 8-11) and "RLP is of a

class of error control protocols known NAK-based ARQ protocols, which are well known in

the art." (see, for example abstract, and column 2, lines 8-11).

Accordingly, it would have been obvious to one having ordinary skill in the art at the

time the invention was made to modify Maggenti and Kalliojarvi with the teaching of Rezaiifar

et al. by using the ARQ, because one of ordinary skill in the art would simply use well known

principles of automation of the request for retransmission processes in order to provide ARQ.

2.2   Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maggenti et
al. (US Patent No. 6,477, 150) in view of Johansson et al. (US Patent No. 6,473,399).

Referring to claims 1, 9, 14, Maggenti et al. substantially teaches that " ... CM 218 may

periodically retransmit AYT requests to any registered CD which has not acknowledged receipt

of the AYT." (column 14, lines 13-15), "...The net itself will remain dormant until one or more

members trigger the transmission of a PTT request. If CM 218 determines it can grant the PTT

request message (i.e., the PTX message) (including performing any necessary arbitration ..."

(column 34, lines 54-58), "...retransmits a second PTT message using the same PTT message ..." (column 30, lines 47, 48), and " ...CD 202 may be preprogrammed with a group-list, which defines at least one net-address in which CD 202 is a member. CD 202 can later send a request to the top-level SIP server to update its group list." (column 10, lines 59-62).

Not specifically described in detail in Maggenti is the step of varying retransmission based on parameters such as round trip delay, time-out and counter means. However Johansson et al., in an analogous art, discloses a hybrid ARQ wherein such techniques are described. {See Johansson et al., Id., Figs. 2-8} Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the procedure in Maggenti by including therein round trip delay and time-out means as taught by Johansson et al., because such modification would provide the procedure disclosed in Maggenti with a technique wherein *"By accounting for the <u>round trip delay</u> of request to transmit certain data units, the counter then starts counting expected data units at a point in time from which it is reasonable to expect that the requested units will have been transmitted and possibly received. The counter adjusts to changes in transmission rate on the communications channel by changing its count value only by the number of data units that should be received per each time interval. Thus, more time is effectively provided when the transmission rate is lower and less time is allowed at higher transmission rates. The end result is an efficient and optimum balance between <u>delay</u> (waiting too long to request a <u>retransmission</u> when the requested data units are not properly received) and unnecessary <u>retransmit</u> requests and <u>retransmission</u> (before the data units have had a reasonable chance to be received)"* to thereby improve data communications. {See Johansson et al., col. 3 line 14 et seq.}

2.2.1　Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maggenti et al. (US Patent No. 6,477, 150) in view of Johansson et al. (US Patent No. 6,473,399) in further view of US 6,618,375 to Rezaiifar et al. (filed: 09/13/99).

Maggenti and Johansson et al. substantially teach that "CM 218 may periodically retransmit AYT requests..." (column 14, line 13). Maggenti and Johansson et al. do not explicitly teach and point out to provide the automatic retransmission request, but does not limits or suggests to limit automatic retransmission request, thereby inherently providing possibility for automatic retransmission, and also Rezaiifar et al. teaches that "ARQ (automatic request for retransmission) mechanism, and wherein data packets are sometimes received in an order different from that in which they were transmitted." (column 2, lines 8-11) and "RLP is of a class of error control protocols known NAK-based ARQ protocols, which are well known in the art." (see, for example abstract, and column 2, lines 8-11).

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Maggenti and Johansson et al. with the teaching of Rezaiifar et al. by using the ARQ, because one of ordinary skill in the art would simply use well known principles of automation of the request for retransmission processes in order to provide ARQ.

Conclusion

3.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

3.1   Any response to this action should be mailed to:

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or faxed to: (703) 872-9306 for all formal communications.

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, <u>Fourth Floor</u> (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guy J. Lamarre, P.E., whose telephone number is (703) 305-0755. The examiner can normally be reached on Monday to Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert De Cady, can be reached on (703) 305-9595.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Information regarding the status of an application may also be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Guy J. Lamarre, P.E
Primary Examiner
4/26/04